



Informatica® Cloud Application Integration  
October 2024

# Azure OpenAI Prompt Engineering

© Copyright Informatica LLC 2024

This software and documentation contain proprietary information of Informatica LLC and are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright law. Reverse engineering of the software is prohibited. No part of this document may be reproduced or transmitted in any form, by any means (electronic, photocopying, recording or otherwise) without prior consent of Informatica LLC. This Software may be protected by U.S. and/or international Patents and other Patents Pending.

Use, duplication, or disclosure of the Software by the U.S. Government is subject to the restrictions set forth in the applicable software license agreement and as provided in DFARS 227.7202-1(a) and 227.7702-3(a) (1995), DFARS 252.227-7013(1)(ii) (OCT 1988), FAR 12.212(a) (1995), FAR 52.227-19, or FAR 52.227-14 (ALT III), as applicable.

The information in this product or documentation is subject to change without notice. If you find any problems in this product or documentation, please report them to us in writing.

Informatica, Informatica Platform, Informatica Data Services, PowerCenter, PowerCenterRT, PowerCenter Connect, PowerCenter Data Analyzer, PowerExchange, PowerMart, Metadata Manager, Informatica Data Quality, Informatica Data Explorer, Informatica B2B Data Transformation, Informatica B2B Data Exchange Informatica On Demand, Informatica Identity Resolution, Informatica Application Information Lifecycle Management, Informatica Complex Event Processing, Ultra Messaging, Informatica Master Data Management, and Live Data Map are trademarks or registered trademarks of Informatica LLC in the United States and in jurisdictions throughout the world. All other company and product names may be trade names or trademarks of their respective owners.

Portions of this software and/or documentation are subject to copyright held by third parties, including without limitation: Copyright DataDirect Technologies. All rights reserved. Copyright © Sun Microsystems. All rights reserved. Copyright © RSA Security Inc. All Rights Reserved. Copyright © Ordinal Technology Corp. All rights reserved. Copyright © Aandacht c.v. All rights reserved. Copyright Genivia, Inc. All rights reserved. Copyright Isomorphic Software. All rights reserved. Copyright © Meta Integration Technology, Inc. All rights reserved. Copyright © Intalio. All rights reserved. Copyright © Oracle. All rights reserved. Copyright © Adobe Systems Incorporated. All rights reserved. Copyright © DataArt, Inc. All rights reserved. Copyright © ComponentSource. All rights reserved. Copyright © Microsoft Corporation. All rights reserved. Copyright © Rogue Wave Software, Inc. All rights reserved. Copyright © Teradata Corporation. All rights reserved. Copyright © Yahoo! Inc. All rights reserved. Copyright © Glyph & Cog, LLC. All rights reserved. Copyright © Thinkmap, Inc. All rights reserved. Copyright © Clearpace Software Limited. All rights reserved. Copyright © Information Builders, Inc. All rights reserved. Copyright © OSS Nokalva, Inc. All rights reserved. Copyright Edifecs, Inc. All rights reserved. Copyright Cleo Communications, Inc. All rights reserved. Copyright © International Organization for Standardization 1986. All rights reserved. Copyright © ej-technologies GmbH. All rights reserved. Copyright © Jaspersoft Corporation. All rights reserved. Copyright © International Business Machines Corporation. All rights reserved. Copyright © yWorks GmbH. All rights reserved. Copyright © Lucent Technologies. All rights reserved. Copyright © University of Toronto. All rights reserved. Copyright © Daniel Veillard. All rights reserved. Copyright © Unicode, Inc. Copyright IBM Corp. All rights reserved. Copyright © MicroQuill Software Publishing, Inc. All rights reserved. Copyright © PassMark Software Pty Ltd. All rights reserved. Copyright © LogiXML, Inc. All rights reserved. Copyright © 2003-2010 Lorenzi Davide, All rights reserved. Copyright © Red Hat, Inc. All rights reserved. Copyright © The Board of Trustees of the Leland Stanford Junior University. All rights reserved. Copyright © EMC Corporation. All rights reserved. Copyright © Flexera Software. All rights reserved. Copyright © Jinfonet Software. All rights reserved. Copyright © Apple Inc. All rights reserved. Copyright © Teleric Inc. All rights reserved. Copyright © BEA Systems. All rights reserved. Copyright © PDFlib GmbH. All rights reserved. Copyright © Orientation in Objects GmbH. All rights reserved. Copyright © Tanuki Software, Ltd. All rights reserved. Copyright © Ricebridge. All rights reserved. Copyright © Sencha, Inc. All rights reserved. Copyright © Scalable Systems, Inc. All rights reserved. Copyright © jQWidgets. All rights reserved. Copyright © Tableau Software, Inc. All rights reserved. Copyright © MaxMind, Inc. All Rights Reserved. Copyright © TMate Software s.r.o. All rights reserved. Copyright © MapR Technologies Inc. All rights reserved. Copyright © Amazon Corporate LLC. All rights reserved. Copyright © Highsoft. All rights reserved. Copyright © Python Software Foundation. All rights reserved. Copyright © BeOpen.com. All rights reserved. Copyright © CNRI. All rights reserved.

This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>), and/or other software which is licensed under various versions of the Apache License (the "License"). You may obtain a copy of these Licenses at <http://www.apache.org/licenses/>. Unless required by applicable law or agreed to in writing, software distributed under these Licenses is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the Licenses for the specific language governing permissions and limitations under the Licenses.

This product includes software which was developed by Mozilla (<http://www.mozilla.org/>), software copyright The JBoss Group, LLC, all rights reserved; software copyright © 1999-2006 by Bruno Lowagie and Paulo Soares and other software which is licensed under various versions of the GNU Lesser General Public License Agreement, which may be found at <http://www.gnu.org/licenses/lgpl.html>. The materials are provided free of charge by Informatica, "as-is", without warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

The product includes ACE(TM) and TAO(TM) software copyrighted by Douglas C. Schmidt and his research group at Washington University, University of California, Irvine, and Vanderbilt University, Copyright (©) 1993-2006, all rights reserved.

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (copyright The OpenSSL Project. All Rights Reserved) and redistribution of this software is subject to terms available at <http://www.openssl.org> and <http://www.openssl.org/source/license.html>.

This product includes Curl software which is Copyright 1996-2013, Daniel Stenberg, <daniel@haxx.se>. All Rights Reserved. Permissions and limitations regarding this software are subject to terms available at <http://curl.haxx.se/docs/copyright.html>. Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

The product includes software copyright 2001-2005 (©) MetaStuff, Ltd. All Rights Reserved. Permissions and limitations regarding this software are subject to terms available at <http://www.dom4j.org/license.html>.

The product includes software copyright © 2004-2007, The Dojo Foundation. All Rights Reserved. Permissions and limitations regarding this software are subject to terms available at <http://dojotoolkit.org/license>.

This product includes ICU software which is copyright International Business Machines Corporation and others. All rights reserved. Permissions and limitations regarding this software are subject to terms available at <http://source.icu-project.org/repos/icu/icu/trunk/license.html>.

This product includes software copyright © 1996-2006 Per Bothner. All rights reserved. Your right to use such materials is set forth in the license which may be found at <http://www.gnu.org/software/kawa/Software-License.html>.

This product includes OSSP UUID software which is Copyright © 2002 Ralf S. Engelschall, Copyright © 2002 The OSSP Project Copyright © 2002 Cable & Wireless Deutschland. Permissions and limitations regarding this software are subject to terms available at <http://www.opensource.org/licenses/mit-license.php>.

This product includes software developed by Boost (<http://www.boost.org/>) or under the Boost software license. Permissions and limitations regarding this software are subject to terms available at [http://www.boost.org/LICENSE\\_1\\_0.txt](http://www.boost.org/LICENSE_1_0.txt).

This product includes software copyright © 1997-2007 University of Cambridge. Permissions and limitations regarding this software are subject to terms available at <http://www.pcre.org/license.txt>.

This product includes software copyright © 2007 The Eclipse Foundation. All Rights Reserved. Permissions and limitations regarding this software are subject to terms available at <http://www.eclipse.org/org/documents/epl-v10.php> and at <http://www.eclipse.org/org/documents/edl-v10.php>.

This product includes software licensed under the terms at <http://www.tcl.tk/software/tcltk/license.html>, <http://www.bosrup.com/web/overlib/?License>, <http://www.stlport.org/doc/license.html>, <http://asm.ow2.org/license.html>, <http://www.cryptix.org/LICENSE.TXT>, <http://hsqldb.org/web/hsqldbLicense.html>, <http://httpunit.sourceforge.net/doc/license.html>, <http://jung.sourceforge.net/license.txt>, [http://www.gzip.org/zlib/zlib\\_license.html](http://www.gzip.org/zlib/zlib_license.html), <http://www.openldap.org/software/release/license.html>, <http://www.libssh2.org>, <http://slf4j.org/license.html>, <http://www.sente.ch/software/OpenSourceLicense.html>, <http://fusesource.com/downloads/license-agreements/fuse-message-broker-v-5-3-license-agreement>; <http://antlr.org/license.html>; <http://aopalliance.sourceforge.net/>; <http://www.bouncycastle.org/licence.html>; <http://www.jgraph.com/jgraphdownload.html>; <http://www.jcraft.com/jsch/LICENSE.txt>; [http://jotm.objectweb.org/bsd\\_license.html](http://jotm.objectweb.org/bsd_license.html); <http://www.w3.org/Consortium/Legal/2002/copyright-software-20021231>; <http://www.slf4j.org/license.html>; <http://nanoxml.sourceforge.net/orig/copyright.html>; <http://www.json.org/license.html>; <http://forge.ow2.org/projects/javaservice/>; <http://www.postgresql.org/about/license.html>, <http://www.sqlite.org/copyright.html>, <http://www.tcl.tk/software/tcltk/license.html>, <http://www.jaxen.org/faq.html>, <http://www.jdom.org/docs/faq.html>, <http://www.slf4j.org/license.html>; <http://www.iodbc.org/dataspace/iodbc/wiki/IODBC/License>; <http://www.keplerproject.org/md5/license.html>; <http://www.toedter.com/en/jcalendar/license.html>; <http://www.edankert.com/bounce/index.html>; <http://www.net-snmp.org/about/license.html>; <http://www.openmdx.org/#FAQ>; [http://www.php.net/license/3\\_01.txt](http://www.php.net/license/3_01.txt); <http://srp.stanford.edu/license.txt>; <http://www.schneier.com/blowfish.html>; <http://www.jmock.org/license.html>; <http://xsom.java.net>; <http://benalman.com/about/license/>; <https://github.com/CreateJS/EaselJS/blob/master/src/easeljs/display/Bitmap.js>; <http://www.h2database.com/html/license.html#summary>; <http://jsoncpp.sourceforge.net/LICENSE>; <http://jdbc.postgresql.org/license.html>; <http://protobuf.googlecode.com/svn/trunk/src/google/protobuf/descriptor.proto>; <https://github.com/rantav/hector/blob/master/LICENSE>; <http://web.mit.edu/Kerberos/krb5-current/doc/mitK5license.html>; <http://jibx.sourceforge.net/jibx-license.html>; <https://github.com/lyokato/libgeohash/blob/master/LICENSE>; <https://github.com/hjiang/jsonxx/blob/master/LICENSE>; <https://code.google.com/p/lz4/>; <https://github.com/jedisct1/libsodium/blob/master/LICENSE>; <http://one-jar.sourceforge.net/index.php?page=documents&file=license>; <https://github.com/EsotericSoftware/kryo/blob/master/license.txt>; <http://www.scala-lang.org/license.html>; <https://github.com/tinkerpop/blueprints/blob/master/LICENSE.txt>; <http://gee.cs.oswego.edu/dl/classes/EDU/oswego/cs/dl/util/concurrent/intro.html>; <https://aws.amazon.com/asl/>; <https://github.com/twbs/bootstrap/blob/master/LICENSE>; <https://sourceforge.net/p/xmlunit/code/HEAD/tree/trunk/LICENSE.txt>; <https://github.com/documentcloud/underscore-contrib/blob/master/LICENSE>, and <https://github.com/apache/hbase/blob/master/LICENSE.txt>.

This product includes software licensed under the Academic Free License (<http://www.opensource.org/licenses/afl-3.0.php>), the Common Development and Distribution License (<http://www.opensource.org/licenses/cddl1.php>) the Common Public License (<http://www.opensource.org/licenses/cpl1.0.php>), the Sun Binary Code License Agreement Supplemental License Terms, the BSD License (<http://www.opensource.org/licenses/bsd-license.php>), the new BSD License (<http://opensource.org/licenses/BSD-3-Clause>), the MIT License (<http://www.opensource.org/licenses/mit-license.php>), the Artistic License (<http://www.opensource.org/licenses/artistic-license-1.0>) and the Initial Developer's Public License Version 1.0 (<http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/>).

This product includes software copyright © 2003-2006 Joe Walnes, 2006-2007 XStream Committers. All rights reserved. Permissions and limitations regarding this software are subject to terms available at <http://xstream.codehaus.org/license.html>. This product includes software developed by the Indiana University Extreme! Lab. For further information please visit <http://www.extreme.indiana.edu/>.

This product includes software Copyright (c) 2013 Frank Balluffi and Markus Moeller. All rights reserved. Permissions and limitations regarding this software are subject to terms of the MIT license.

See patents at <https://www.informatica.com/legal/patents.html>.

DISCLAIMER: Informatica LLC provides this documentation "as is" without warranty of any kind, either express or implied, including, but not limited to, the implied warranties of noninfringement, merchantability, or use for a particular purpose. Informatica LLC does not warrant that this software or documentation is error free. The information provided in this software or documentation may include technical inaccuracies or typographical errors. The information in this software and documentation is subject to change at any time without notice.

#### NOTICES

This Informatica product (the "Software") includes certain drivers (the "DataDirect Drivers") from DataDirect Technologies, an operating company of Progress Software Corporation ("DataDirect") which are subject to the following terms and conditions:

1. THE DATADIRECT DRIVERS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.
2. IN NO EVENT WILL DATADIRECT OR ITS THIRD PARTY SUPPLIERS BE LIABLE TO THE END-USER CUSTOMER FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES ARISING OUT OF THE USE OF THE ODBC DRIVERS, WHETHER OR NOT INFORMED OF THE POSSIBILITIES OF DAMAGES IN ADVANCE. THESE LIMITATIONS APPLY TO ALL CAUSES OF ACTION, INCLUDING, WITHOUT LIMITATION, BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, MISREPRESENTATION AND OTHER TORTS.

Publication Date: 2024-11-08

# Table of Contents

- Preface ..... 5**
  
- Chapter 1: Introduction to Azure OpenAI Prompt Engineering recipe..... 6**
  - Azure OpenAI Prompt Engineering recipe contents. .... 6
  - Azure OpenAI Prompt Engineering recipe assets. .... 6
  
- Chapter 2: Using the Azure OpenAI Prompt Engineering recipe..... 8**
  - Step 1. Copy and access the recipe. .... 8
  - Step 2. Configure and publish the Azure OpenAI app connection. .... 9
  - Step 3. Configure and publish the process. .... 9
  - Step 4. Publish and run the guide. .... 10

# Preface

Use *Azure OpenAI Prompt Engineering* to design prompts for Azure OpenAI. The recipe can use a guide or an HTTP request to submit prompts and receive responses from the large language model (LLM).

# CHAPTER 1

## Introduction to Azure OpenAI Prompt Engineering recipe

Use the Azure OpenAI Prompt Engineering recipe to design prompts for Azure OpenAI.

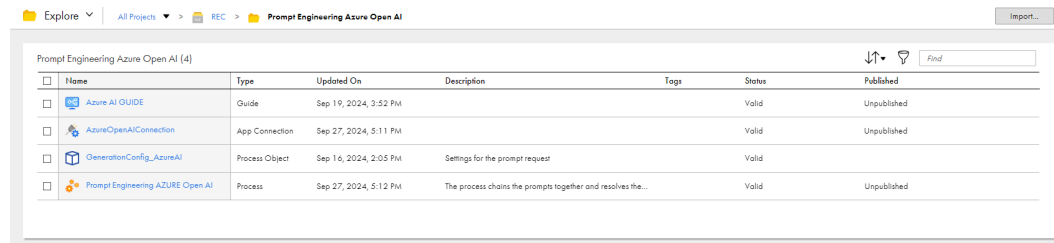
You can set input behavior for prompts and view the responses that you receive from the LLM. Then you can update the input behavior to improve the accuracy and effectiveness of the responses.

To use the recipe, run the guide or embed the guide into the HTML document of a third-party application.

## Azure OpenAI Prompt Engineering recipe contents

The Azure OpenAI Prompt Engineering recipe contains a guide, app connection, process object, and process.

The following image shows the assets that the Azure OpenAI Prompt Engineering recipe contains:



## Azure OpenAI Prompt Engineering recipe assets

The following table describes the assets that the Azure OpenAI Prompt Engineering recipe contains:

Asset Name	Asset Type	Description
Azure AI GUIDE	Guide	Provides a set of screens where you can set the input behavior and the prompt and view the response from the LLM.
AzureOpenAIConnection	App connection	Contains the metadata to connect to Azure OpenAI.

<b>Asset Name</b>	<b>Asset Type</b>	<b>Description</b>
GenerationConfig_AzureAI	Process object	Contains Azure OpenAI settings for temperature, top_p, and max tokens.
Prompt Engineering AZURE Open AI	Process	Creates the prompt, submits it to the LLM, and retrieves the response.

## CHAPTER 2

# Using the Azure OpenAI Prompt Engineering recipe

To use the Azure OpenAI Prompt Engineering recipe, copy the recipe and configure and publish the assets. Then run the guide to submit prompts and receive responses from the LLM.

Complete the following tasks:

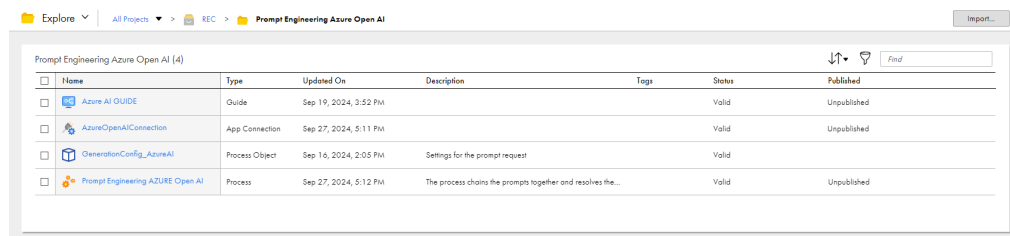
1. Copy and access the recipe.
2. Configure and publish the Azure OpenAI app connection.
3. Configure and publish the process.
4. Publish and run the guide.

## Step 1. Copy and access the recipe

Copy the recipe to add the assets to your organization.

1. On the **Recipes** page, open the **Azure OpenAI Prompt Engineering** recipe and click **Use**.
2. Select the location where you want to copy the recipe, and then click **Continue**.
3. In the **Copying the recipe** dialog box, click **OK**.  
It might take some time to copy the recipe. A notification appears when the recipe is ready for use.
4. Click **Explore** to access the recipe content.
5. Navigate to the project or folder where you copied the recipe or enter the recipe name in the **Find** box.

The following image shows the assets in the recipe:



The screenshot shows a table of assets for the 'Prompt Engineering Azure Open AI (4)' recipe. The table has columns for Name, Type, Updated On, Description, Tags, Status, and Published. The assets listed are:

Name	Type	Updated On	Description	Tags	Status	Published
Azure AI GUIDE	Guide	Sep 19, 2024, 3:52 PM			Valid	Unpublished
AzureOpenAIConnection	App Connection	Sep 27, 2024, 5:11 PM			Valid	Unpublished
GenerationConfig_AzureAI	Process Object	Sep 16, 2024, 2:05 PM	Settings for the prompt request		Valid	
Prompt Engineering AZURE Open AI	Process	Sep 27, 2024, 5:12 PM	The process chains the prompts together and resolves the...		Valid	Unpublished



## Step 2. Configure and publish the Azure OpenAI app connection

Configure the Azure OpenAI app connection to specify the runtime environment. Then publish the asset.

1. Open the **AzureOpenAIConnection** app connection.
2. On the **Properties** tab, edit the **Run On** field and select the runtime environment.
3. In the **Connection Properties** area, configure the REST API endpoint for Azure OpenAI and enter the API key.

The following table describes the properties:

Property	Description
Endpoint_URL	The REST API endpoint for Azure OpenAI. You can find this value in the <b>Keys &amp; Endpoint</b> section when examining your resource from the Azure portal. Alternatively, you can find the value in <b>Azure OpenAI Studio &gt; Playground &gt; Code View</b> .
API_Key	The API key to authenticate Azure OpenAI connection requests. You can find this value in the <b>Keys &amp; Endpoint</b> section when examining your resource from the Azure portal. Alternatively, you can find the value in <b>Azure OpenAI Studio &gt; Playground &gt; Code View</b> .

4. Save, test, and publish the app connection.

## Step 3. Configure and publish the process

Configure and publish the process so that it can submit prompts to Azure OpenAI.

1. Open the **Prompt Engineering AZURE Open AI** process.
2. In the **Start** step, use the **Temp Fields** tab to enter values for the following fields:
  - In the **api\_version** field, optionally enter the API version of the LLM model. Default is **2024-06-01**.
  - In the **deployment\_id** field, enter the user-specific deployment ID.

For information about changing the API version, see the Azure OpenAI documentation.

3. Optionally, in the **Configure Request Parameters** step, use the **Assignments** tab to edit the **top\_p**, **temperature**, and **max tokens** for each request.

You can edit the code in the Expression Editor. For example:

```
<GenerationConfig_AzureAI>  
  <top_p>1</top_p>  
  <temperature>0.5</temperature>  
  <max_tokens>500</max_tokens>  
</GenerationConfig_AzureAI>
```

The following table describes the properties:

Property	Description
top_p	Determines the cumulative probability threshold for token selection. The model considers the smallest set of tokens whose cumulative probability meets or exceeds top_p. For example, if top_p is set to 0.1, the model considers only the top 10% most probable tokens at each step.
temperature	Controls the randomness of the model's output. A lower value makes the output more deterministic, while a higher value increases randomness and creativity. For example, a temperature of 0.5 balances between deterministic and creative outputs.
max_tokens	Defines the maximum number of tokens that the model can generate in its response. Setting a limit ensures that the response is concise and fits within the desired length constraints.

For more information about these properties, see the Azure OpenAI documentation.

4. Save and publish the process.

## Step 4. Publish and run the guide

Publish and run the guide to submit prompts to Azure OpenAI and receive responses.

1. Open the **Azure AI GUIDE** guide.
2. In the **Start** step, use the **Start** tab to set the **Run As** field to **Current User**.
3. Save the guide.
4. To publish the guide, navigate to the guide on the **Explore** page and click **Publish**.
5. To run the guide, open it and expand the **Actions** menu. Then click **Run**.

The **Instructions** page appears.

6. In the **Set AI behavior** area, enter the behavior, such as **friendly**.
7. In the **Enter prompt** area, enter the prompt to submit to the LLM.
8. Click **Continue**.

The response from the LLM appears.

9. Click **Ask another question** or **End** to end the session.

You can use the inline frame to embed the guide into the HTML document of a third-party application.